DELONG, A.; DRAHOS, V.; ZOBAC, L.

Electron microscope with high resolving power. Cs cas fys 12 no.5/6:471-478 '62.

1. Ustav pristrojove techniky, Ceskoslovenska akademie ved, Laborator elektronove optiky, Brno.

ZOBAC, Ladislav, inz.

Current stabilization by a circuit with negative differential resistance. Slaboproudy obzor 24 no.2:89-94 F '63.

1. Ustav pristrojove techniky, Ceskoslovenska akademie ved, Brno.

45755

17.1106

S/194/62/000/012/042/101
D413/D308

AUTHORS: Zobač, Ladislav and Speciálný, Jan

TITLE: An air valve

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 12, 1962, 7, abstract 12-3-14 b (Czech. pat., cl. 21g, 37/10, no. 99381, Apr. 15, 1961)

TEXT: An air valve is proposed, designed particularly for vacuum systems, in which the seal is made up of two plates mounted one above the other, fixed to a common shaft and performing a to-and-fro movement in the vertical direction. When the shaft moves downwards (as a result of the screwing of a nut to which the top end of the shaft is fixed), the lower plate hermetically seals a port in the outlet manifold of the system being pumped out, which is joined to the bottom end of the valve body. At the same time the upper plate closes a port in a transverse partition in the valve separating the equalization chamber, which is located in the upper part of the pump, from the lower part of the body. Thus the system

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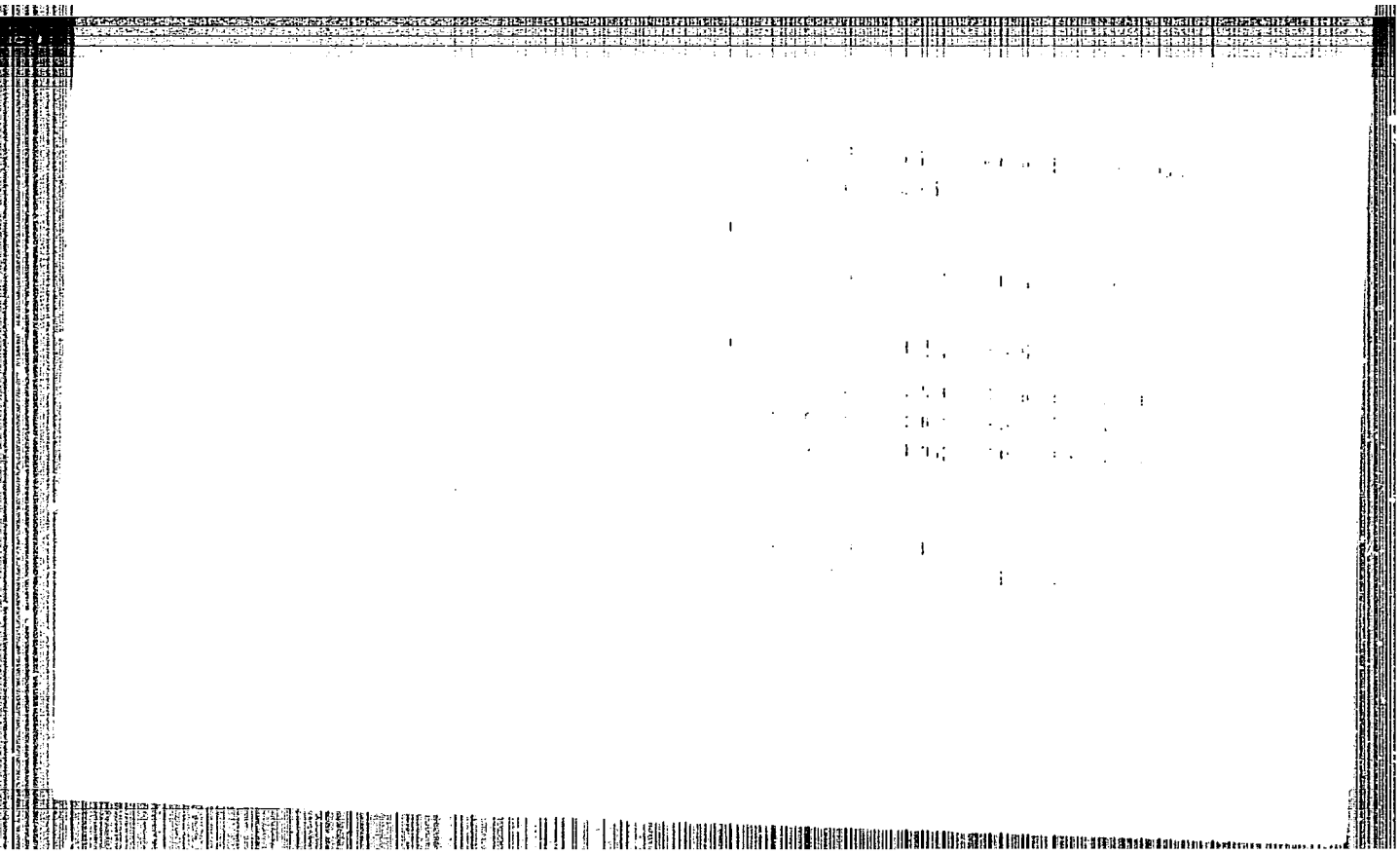
An air valve

S/194/62/000/012/042/101
D413/D308

being exhausted is isolated from the pump. To connect the system being exhausted to the pump, the shaft (and both plates with it) is raised by screwing the nut at the top of the valve body to the left, so that the port in the system's outlet manifold is opened and air from the system can pass into the inlet manifold of the pump, fixed to the side wall of the valve body. A convenient opening of the valve is obtained by the equalization chamber having a constantly open connexion with the manifold of the system being exhausted, so that the pressures above the upper plate and below the lower plate are always the same. In comparison with ball-valves this design has smaller dimensions for the same working capacity, and does not require careful maintenance. [Abstracter's note: Complete translation.]

Card 2/2



APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R002065320014-8"

ACCESSION NR: AP4015899

Z/0039/64/025/001/0034/0039

AUTHOR: Veprek, Jaroslav (Engineer, Candidate of sciences); Zobac, Ladislav (Engineer, Candidate of sciences)

TITLE: A thermistor vacuum gauge

SOURCE: Slaboproudy obzor, v. 25, no. 1, 1964, 34-39

TOPIC TAGS: thermistor, vacuum gauge, gas pressure, vacuum measurement, pressure measurement, bead-type thermistor

ABSTRACT: An analysis is made of the dependence of a bead-type thermistor on the gas pressure, with the purpose of producing equations suitable for designing new thermistor vacuum gauges. At an atmospheric pressure p_0 = 760 mm Hg the gas has a heat conductivity $\lambda = \lambda_p$ and the resistance of the thermistor is $R = R_p$ (B in the graph in Fig. 2 of Enclosure 01). If the pressure drops, the heat conductivity declines causing a drop in the thermistor resistance. When pressure reaches the critical point $p_k = 10^{-3}$ mm Hg the heat conductivity is

Card 1/2

$\lambda = \lambda_k$ and resistance $R = R_k$ (A in the graph). The change in the dependence $R = f(\ln p)$ in the bead-type thermistor is shown in the graph. If pressure is $p \gg p_k$, then the equation for practical uses has the following form:

$$\Delta R_p = \Delta R_{pt} \cdot \sqrt{\frac{e^{\ln p}}{w + e^{\ln p}}}.$$

The constant $w = f(\lambda p)$ has a considerable influence on the function $\Delta R_p = f(\ln p)$ and is equal to 0.8 in thermistors in Table 1 of Enclosure 02. The change in the pressure ΔR_{po} caused by the change of atmospheric pressure is then

$$\Delta R_{po} = \Delta R_{pko} \cdot \sqrt{\frac{e^{\ln p}}{0{,}8 + e^{\ln p}}}.$$

The graphic expression of the function $\Delta R_{po}/\Delta R_{pko} = f(\ln)$ is shown in

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Fig. 3 of Enclosure 03. The dependence of the changes in the resistance ΔR_{pk} of the bead-type thermistor on the temperature and heat conductivity of gases is then

$$\Delta R_{pk} = 0{,}087 \cdot R_o \cdot \beta_{po} \cdot \frac{[1}{\sqrt{\lambda_p}} \cdot \frac{(1 - 0{,}01\vartheta)}{e^{[illegible]}} \cdot$$

$$[\Omega;\ ^{\circ}C,\ kcal/m\ h\ ^{\circ}C]$$

where β_{po} is $\Delta R_{pk}/R_o$, ϑ temperature, and λ_p heat conductivity. For air ($\lambda_p = \lambda_{po} = 0.02$ kcal/m·h·degree centigrade) the equation takes the following form:

$$\Delta R_{pko} = 0{,}62 \cdot R_o \cdot \beta_{po} \cdot \frac{(1 - 0{,}01\vartheta)}{e^{[illegible]}} \cdot [\Omega;\ ^{\circ}C]$$

Two thermistors of the NR08A series, developed by the VUST, Prague, are described, one with a resistance of 7.7, the other with 56 k-ohms. A cross section and circuit diagram of the thermistor vacuum gauge are shown in Figs. 6 and 8 of Enclosures 04 and 05. The instrument described is said to be easier to

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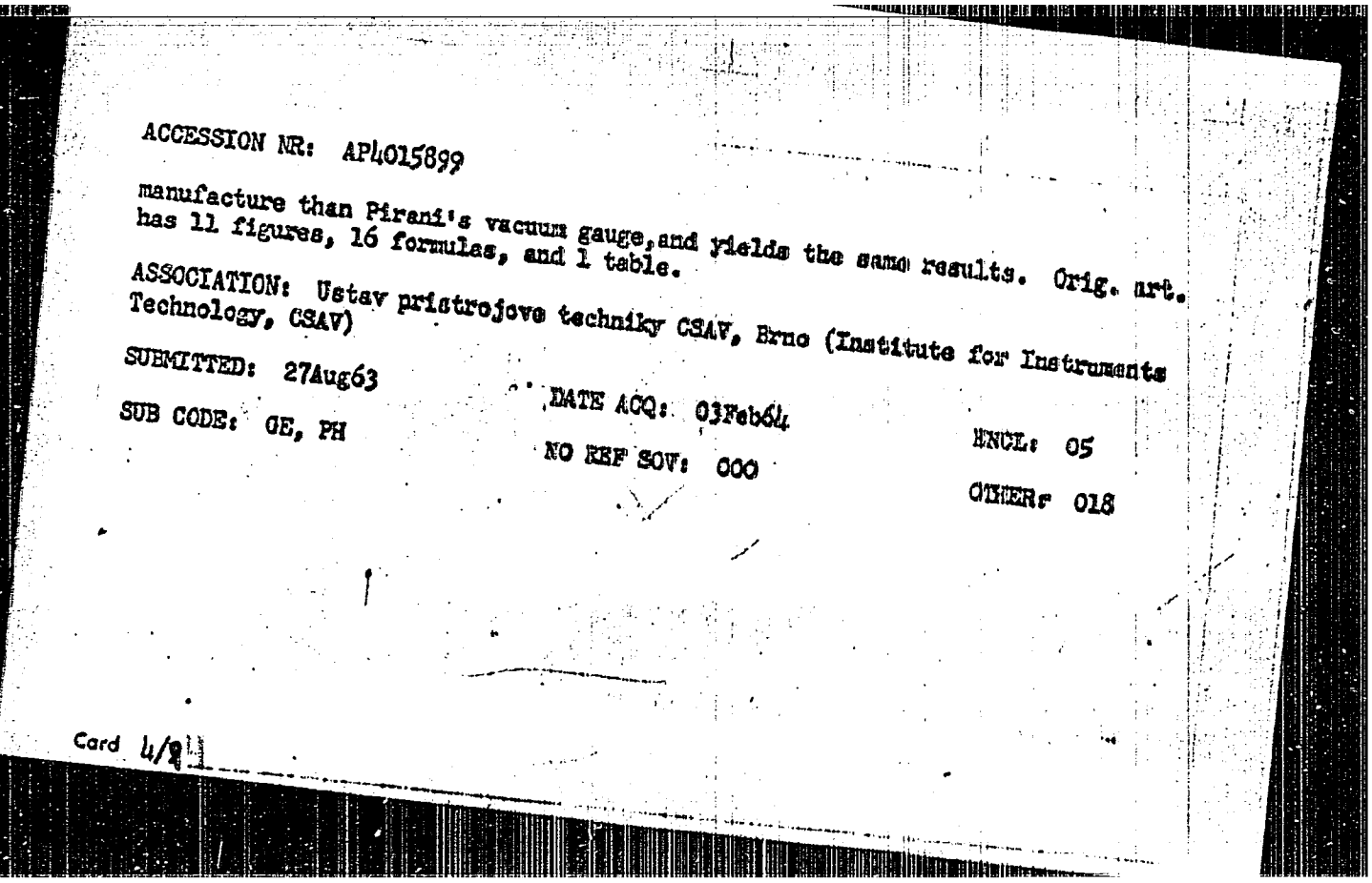

ACCESSION NR: AP4015899

manufacture than Pirani's vacuum gauge, and yields the same results. Orig. art. has 11 figures, 16 formulas, and 1 table.

ASSOCIATION: Ustav pristrojove techniky CSAV, Brno (Institute for Instruments Technology, CSAV)

SUBMITTED: 27Aug63

DATE ACQ: 03Feb64

ENCL: 05

SUB CODE: OE, PH

NO REF SOV: 000

OTHER: 018

Card 4/4

VEPREK, Jaroslav, inz. CSc.; ZOBAC, Ladislav, inz. CSc.

Thermistor vacuum gauge. Slaboproudy obzor 25 no.1:34-39 Ja'64.

1. Ustav pristrojove techniky, Ceskoslovenska akademie ved, Brno.

DELONG, Armin, inz.; DRAHOS, Vladimir, inz.; SPECIALNY, Jan; ZOBAC, Ladislav, inz.

An experimental high-resolving-power electron microscope. Slaboproudy obzor 21 no.4:195-206 Ap '60.
(Electron microscope)
(EEAI 9:8)

Zobac, L.

Zobac, L. Notes on the problem of vacuum division; contribution to a discussion. p. 516.

Vol. 17, no. 9, Sept. 1956
SLABOPROUDY OBZOR
TECHNOLOGY
Czechoslovakia

So. East European Accessions, Vol. 6, May 1957
No. 5

AT6030212

SOURCE CODE: CZ/0039/66/027/003/0155/0159

AUTHOR: Zobac, Ladislav--Zobach, L. (Engineer; Candidate of sciences); Jelinek, Josef--Yelinek, Ya. (Engineer)

ORG: Institute of Instrumental Engineering, CSAV, Brno (Ustav pristrojove techniky CSAV)

TITLE: Phototransistor relay 75

SOURCE: Slaboproudy obzor, v. 27, no. 3, 1966, 155-159

43B

TOPIC TAGS: phototransistor, electric relay, electron microscope

ABSTRACT: The article describes the design and properties of a phototransistor circuit which responds to a change of illumination by the operation or release of an electromagnetic relay. The design of the relay is briefly described and experience in its use to automatically control pumping operations in the vacuum system of an electron microscope is reported. Orig. art. has: 9 figures. [Based on authors' Eng. abst.] [JPRS: 36,644]

SUB CODE: 09 / SUBM DATE: 12Apr65 / ORIG REF: 002

Card 1/1 03

UDC: 621.318.57: 621.383.004

ZOBACHEV, I.G.; UGRENINOV, N.G.; PROTOPOPOV, N.N.; ZHUKOVSKIY, N.I.; KHRAMOV, A.S.; RYABOV, I.S.; LAZOVNIKOV, M.A., tekhn. red.

[The city of Novosibirsk and Novosibirsk Province] Gorod Novosibirsk i Novosibirskaia oblast'. Novosibirsk, Novosibirskoe oblastnoe upravlenie "Poligrafizdat," 1948. 166 p. (MIRA 16:1)

(Novosibirsk) (Novosibirsk Province)

MAKAROV, N.; VALIOTTI, B. (g. Arkhangel'sk); ZOBACHEV, K. (g.Magadan)

Letters and correspondence. Sov. profsoiuzy 17 no.13:22-23 Jl '61. (MIRA 14:7)

1. Litsotrudnik mnogotirazhnoy gazety "Za dobleatnyy trud" (for Makarov). 2. Neshtatnyye korrespondenty zhirnala "Sovetskiye profscyuzy" (for Valiotti, Zobachev).
(Trade unions)

BELOUSOV, V., pensioner; GONCHARENKO, V., tekhnicheskiy inspektor; ZOBACHEV, K.; MANAFOV, G.; KOLOGRIV, P.; KABAKOV, Yu., instruktor

We suggest, study and confer. Gov. profsoiuzy 17 no.24:17-18 D '61. (MIRA 14:12)

1. Oblastnoy komitet profsoyuza rabochikh metallurgicheskoy promyshlennosti, g. Magadan (for Zobachev). 2. Zaveduyushchiy otdelom truda i zarabotnoy platy Azerbaydzhanskogo soveta profsoyuzov (for Manafov). 3. Neshtatnyy korrespondent zhurnala "Sovetskiye profsoyuzy", g. Khabarovsk (for Kologriv). 4. Chernigovskiy oblastnoy sovet professional'nykh soyuzov (for Kabakov).

(Industrial hygiene) (Trade unions)

ZORACHEV, N.M.

Design of a self-recording device for measuring the settling of stamps in testing soils using experimental static loads. [Trudy] NIIOSP no.42:123-125 '60. (MIRA 13:6)
(Soil mechanics)

KRUGLOV, I.N.; ZOBACHEV, N.M.; GALITSKIY, V.G.; ROZENTAL', A.I.

Automated united used for testing soils by means of test loads. [Trudy] NIIOSP no.33:84-99 '58. (MIRA 11:9)
(Testing machines) (Soil mechanics)

KROPACHEV, A.M.; ZOBACHEV, V.A.

Luminescence of gypsum. Nauch.dokl.vys.shkoly; geol.-geog.nauki no.1:195-197 '59. (MIRA 12:6)

1. Permskiy universitet, geologicheskiy fakul'tet, kafedra mineralogii i petrografii.

(Gypsum)

BARDINA, V.; ZOBACHEV, Yu.; KUZNETSOV, V.; SHCHERBAKOV, P.; STRUMPE, F.I., kand. tekhn.nauk, otv.red.; ARAKELOV, V.M., nauchnyy red.; FREYSMAN, D.Ya., red.; FRISHMAN, Z.S., red.izd-va; KOTLYAKOVA, O.I., tekhn.red.

[Protection of tanks used on oil tankers] Protektornaia zashchita tankov neftenalivnykh sudov. Leningrad, Izd-vo Morskoi.transport. 1959. 47 p. (Leningrad. tsentral'nyi nauchno-issledovatel'skii institut morskogo flota. Trudy no.24) (MIRA 12:5)
(Tank vessels) (Tanks) (Corrosion and anticorrosives)

ZOBACHOVA, [illegible]

YUGOSLAVIA/Organic Chemistry. Natural Compounds and Their Synthetic Analogs. G

Abs Jour: Ref Zhur-Khimiya, No 21, 1958, 70930.

Author : Lukesh, Zobachova, Pleshek.
Inst :
Title : The Absolute Configuration in the Citronellal Series.

Orig Pub: Croat. chem. acta, 1957, 29, No 3-4, 201-205.

Abstract: The authors synthesized the following compounds using (+) citronellic acid (I) as the starting material: (+) citronellol (II), (-)-citronellyl bromide (III), (+)-2,6-dimethyloctene (IV), (+) citronellamide (V), (-)-citronell nitrile (VI) methyl ester of I.
Applying a known absolute configuration of citronellal, the authors established that I-III, V and

Card : 1/5

YUGOSLAVIA/Organic Chemistry. Natural Compounds and Their Synthetic Analogs. G

Abs Jour: Ref Zhur-Khimiya, No 21, 1958, 70930.

VI belong to the R-series, and IV belongs to the S-series (for the nomenclature see: R Zh. Khim., 1956, 71531). The erroneous data on the rotation of I and VI published previously (Herschmann Ch., Helv. chim. acta, 1949, 32, 2537) have been corrected. Crude pulegone is saturated with HCl (gas) with cooling, is set aside for 12 hours, and then is stirred for 4 hours at 20° C with an excess of 5% NaOH solution. I is separated, it has a boiling point of 112-113°C/0.6 mm, n_D^{20} 1.4540, d_4^{20} 0.9256, α_D^{20} + 7,78°, $[\alpha]_D^{20}$ +8.40 ; the methyl ester of I (obtained by the reaction with CH_2N_2 in ether) has a boiling point of 78° C/3 mm, n_D^{20} 1.4413, d_4^{20} 0.8973, α_D^{20} + 4.97°, $[\alpha]_D^{20}$ + 5.45°. 110 grams of I and 100

Card : 2/5

YUGOSLAVIA/Organic Chemistry. Natural Compounds and Their Synthetic Analogs. G

Abs Jour; Ref Zhur-Khimiya, No 21, 1958, 70930.

grams of V, 20 grams of PCl_5 and 40 ml of CCl_4 is heated. After the exothermic reaction has ceased, the mixture is boiled for one hour, the solvent and $POCl_3$ are vacuum distilled, and to the reaction product a 10% aqueous NaOH solution is added. The VI is steam distilled, and is isolated in a 62% yield, b.p. 107°C/15 mm, n_D^{20} 1.4491, d_4^{20} 0.8483, α_D^{20} -8.30°, $[\alpha]_D^{20}$ -9.78°. 6.6 grams of I is reduced to II with lithium aluminum hydride (2 grams) in ether (20° C., 5 hours); yield, 94%, b.p. 110°C/10 mm, n_D^{20} 1.4558, d_4^{20} 0.8558, α_D^{20} + 4.6°, $[\alpha]_D^{20}$ + 5.37°.

To a solution of 5 grams of II in 20 ml of petroleum ether and 2.4 ml of pyridine is added 5 grams of PBr_3

Card : 4/5 40

ZOBACHEV, Yu.

USSR /Chemical Technology. Chemical Products and Their Application
Corrosion. Protection from Corrosion. H-4

Abs Jour: Referat Zhur - Khimiya, No 1, 1958, 1615

Author : Zobachev Yu., Bershteyn V., Kuznetsov V.

Title : Means of Protecting Inside Surfaces of Tankers from Corrosion.

Orig Pub: Morsk. flot, 1957, No 4, 15-18

Abstract: A presentation of the results of investigations of the causes of corrosion damage (CD) to inside surfaces and structures of a large number of foreign tankers. The average magnitude of CD averages 0.28 mm/year during the first 9 years of operation, and 0.38 mm/year during the

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USSR /Chemical Technology. Chemical Products and Their Application
Corrosion. Protection from Corrosion. 4-4

Abs Jour: Referat Zhur - Khimiya, No 1, 1958, 1615

subsequent years. During transportation of dark grades of petroleum products the rate of corrosion of the ships is approximately 3 times less than in shipping of light petroleum products. Procedures for the protection of the tankers from corrosion are listed. Tanker structures made from clad stainless steel. The vinyl resin base coatings can be utilized over prolonged periods at temperatures not exceeding 50-60°, or on brief exposures to temperatures of 85-95°. Also effective is a coating of Saran, which is sometimes used with an aluminum powder filler. To enhance the quality of the protective coating use is made of etching primers containing phos-

Card 2/5

Abs Jour: Referat Zhur - Khimiya, No 1, 1958, 1615

phoric acid. Good results were also obtained with coatings based on epoxy-resins, ethynol- and neoprene lacquers. Other materials that can be used to protect inside surfaces of tankers include coatings having a base of furan- and phenol resins, thiokol, polyamides, etc. On a number of tankers corrosion is controlled by drying the air inside the tanker by means of a "Cargocare" unit. Corrosion inhibitors, which are added to the ballast water, are not utilized at the present time for economical reasons. Among the corrosion inhibiting agents that are added to the cargo the best results were obtained

USSR /Chemical Technology. Chemical Products H-4
and Their Application
Corrosion. Protection from Corrosion.

Abs Jour: Referat Zhur - Khimiya, No 1, 1958, 1615

with "Santolen S". In the washing of surfaces of empty tankers use has been made of a 5% solution of Na_2SiO_3 in fresh water containing 1% (by weight) of NaOH. In the United States and England extensive use is made of cathodic protection, by means of Mg-anodes, for the corrosion control in ballast carrying tankers. A6Z3 alloy has been used for the anodes. In England a 2-step system of protection has been used, in which, during the initial stage, the primary anodes, weighing 60-80 kg each and installed inside the tanker, are supplemented by temporary, additional, anodes of circular

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USSR /Chemical Technology. Chemical Products and Their Application
Corrosion. Protection from Corrosion. H-4

Abs Jour: Referat Zhur - Khimiya, No 1, 1958, 1615

shape, by means of which a rapid formation of a protective calcareous layer on the metal, is effected.

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ZOBACHEV, Yu.; KUZNETSOV, V.; SHCHERBAKOV, P.

Use of anticorrosive protection for the internal surfaces of petroleum tank vessels. Mor.flot. 19 no.11:32-34 N '59. (MIRA 13:3)

1. Nachal'nik laboratorii korrozii TSentral'nogo nauchno-issledovatel'skogo instituta Morskogo flota (for Zobachev). 2. Starshiye inzhenery laboratorii korrozii TSentral'nogo nauchno-issledovatel'skogo instituta Morskogo flota (for Kuznetsov, Shcherbakov).
(Tank vessels--Cathodic protection)

AUTHORS: Glikman, L.A., Dr. of Technical Sciences, Prof. and Zobachev, Yu. Ye., Candidate of Technical Sciences. (Central Marine Research Institute).

TITLE: Influence of shot peening on the cavitation resistance of metals tested by means of a magneto-striction vibrator. (Vliyaniye drobestruynogo naklepa na kavitatsionnuyu stoykost' metallov pri ispytanni na magnitostriktsionnom vibratore).

PERIODICAL: "Metallovedenie i Obrabotka Metallov" (Metallurgy and Metal Treatment), 1957, No.5, pp.38-41.(U.S.S.R.)

ABSTRACT: Grossman (2) found that shot peening has a favourable influence on cavitation resistance but his results were not unequivocal. In this paper the results are described of experiments aimed at studying the influence of shot peening on the cavitation resistance of carbon steels containing 0.4 and 0.53% C, on brass and on an austenitic steel. Specimens were made of these materials which were subjected to cavitation tests on a magnetostriction vibrator after shot peening. The depth of the work hardened layer was 0.2 to 0.25 mm for the austenitic steel and 0.1 to 0.15 mm for the brass. The authors did not detect any appreciable influence of shot peening on the cavitation strength. The shot peened surface layer increases somewhat the resistance of the metal to plastic deformation but this increase

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Influence of shot peening on the cavitation resistance of metals tested by means of a magnetostriction vibrator. (Cont.)

is not large enough to reduce appreciably local plastic deformation caused by the mechanical effect of the hydraulic impacts during the collapse of bubbles. The relatively slight increase in the strength of the surface layer does not compensate the adverse influence caused by the decrease in the corrosion stability of the metal. 4 Tables; 5 Russian, 1 American references.

Card 2/2

ZOBACHEV, Yu., kandidat tekhnicheskikh nauk.; BERSHTEIN, V., inzhener; KUZHEETSOV, V.

Ways of protecting a tanker's internal surfaces from corrosion.
Mor. flot 17 no.4:15 Ap '57. (MLRA 10:4)

1. TSentral'nyy nauchno-issledovatel'skiy institut morskogo flota.
(Tank vessels) (Corrosion and anticorrosives)

GLIKMAN, L., doktor tekhnicheskikh nauk; ZOBACHEV, Yu.

Ways of increasing the life of ship propellers. Mor.i rech.flot 14 no.4:20-22 Ap '54. (MLRA 7:5)
(Propellers)

ZOBACHEV, Yu.Ye.

GLIKMAN, L.A., doktor tekhnicheskikh nauk; ZOBACHEV, Yu.Ye., inzhener.

Ways to increase the life of a ship's propeller shaft.
Trudy TSNIIMF no.28:3-44 '54. (MLRA 9:1)

(Shafts and shafting) (Corrosion and anticorrosives)

ZOBACHEV, Yu, Ye

GLIKMAN, L.A., doktor tekhnicheskikh nauk; TEKHT, V.P., kandidat tekhnicheskikh nauk; ZOBACHEV, Yu.Ye., inzhener.

Problem of the physical nature of cavitation breakdowns. Trudy TSNIIRF no.28:45-59 '54.

(Cavitation) (Metallography)

ZOBACHEV, Yu. Ye.

USSR/Physics - Cavitation FD-3045

Card 1/2 Pub. 153 - 14/23

Author : Glikman, L. A.; Tekht, V. P.; Zobachev, Yu. Ye.

Title : Problem of the physical nature of cavitational destruction

Periodical : Zhur. tekh. fiz., 25, February 1955, 280-298

Abstract : The authors state that although there are many works (e.g. I. M. Metter, Usp. fiz. nauk, 35, No 1, 1948; I. N. Voskresenskiy, Korroziya i eroziya sudovykh grebnykh vintov [Corrosion and erosion of ships' screw propellers], Ship Industry Press, 1949; M. O. Kornfel'd, Uprugost' i prochnost' zhidkostey [Elasticity and stability of fluids], GITGL, 1951; V. A. Konstantinov, Dokl. AN SSSR, 4, No 3, 1947) there are no generally accepted ideas as to the physical nature of cavitational destruction and as to the mechanism governing the occurrence of this process. They present new experimental data in an investigation of the surface layer of specimens subjected to cavitational action in a magnetostriction vibrator in initial or earlier stages of destruction; they employed microstructure and x-ray analysis and also microhardness measurement,

Abstract : namely on various steels, brass, and nonferrous alloys. They claim that their results permit sharpening existing concepts of cavitational destruction; they present photographs and detailed conclusions (e.g. establishment of plastic deformation in the surface layer etc.). Nine references: e.g. L. A. Glikman, ibid., 7, 14, 1434, 1937.

Institution : -

Submitted : May 16, 1954

L 40256-66 SWT(m)/EWP(t)/ETI IJP(c) JD/HB

ACC NR: AP6019900 (N) SOURCE CODE: UR/0145/65/000/012/0112/0116

AUTHOR: Zamoruyev, V. M. (Doctor of technical sciences, Professor); Zobachev, Yu. Ye.; Kartyshov, A. V. (Candidate of technical sciences); Vysotskiy, A. A. (Engineer) 52 50 13

ORG: Leningrad Institute of Water Transport (Leningradskiy Institut vodnogo transporta)

TITLE: The effect of alloying elements on cavitation resistance of chrome-manganese steel 14

SOURCE: IVUZ. Mashinostroyeniye, no. 12, 1965, 112-116

TOPIC TAGS: alloy, alloy steel, alloy composition, chromium, manganese, cavitation, marine equipment, sea water corrosion

ABSTRACT: The cavitation resistance of various grades of steel is studied as a function of concentration of chromium, manganese and other elements and an optimum steel composition is selected for marine propeller screws. Experimental smelting was done in a high frequency induction furnace. All specimens were heated to 1100-1150°C, depending on carbon content. The specimens were heated for 20 minutes and then cooled in quiet air. Cavitation resistance was studied on a magnetostrictive vibrator at a frequency of 8 kc. The working surfaces of the specimens were polished. All experimental work was done under synthetic marine conditions for a period of three hours.

UDC: 620.193.16

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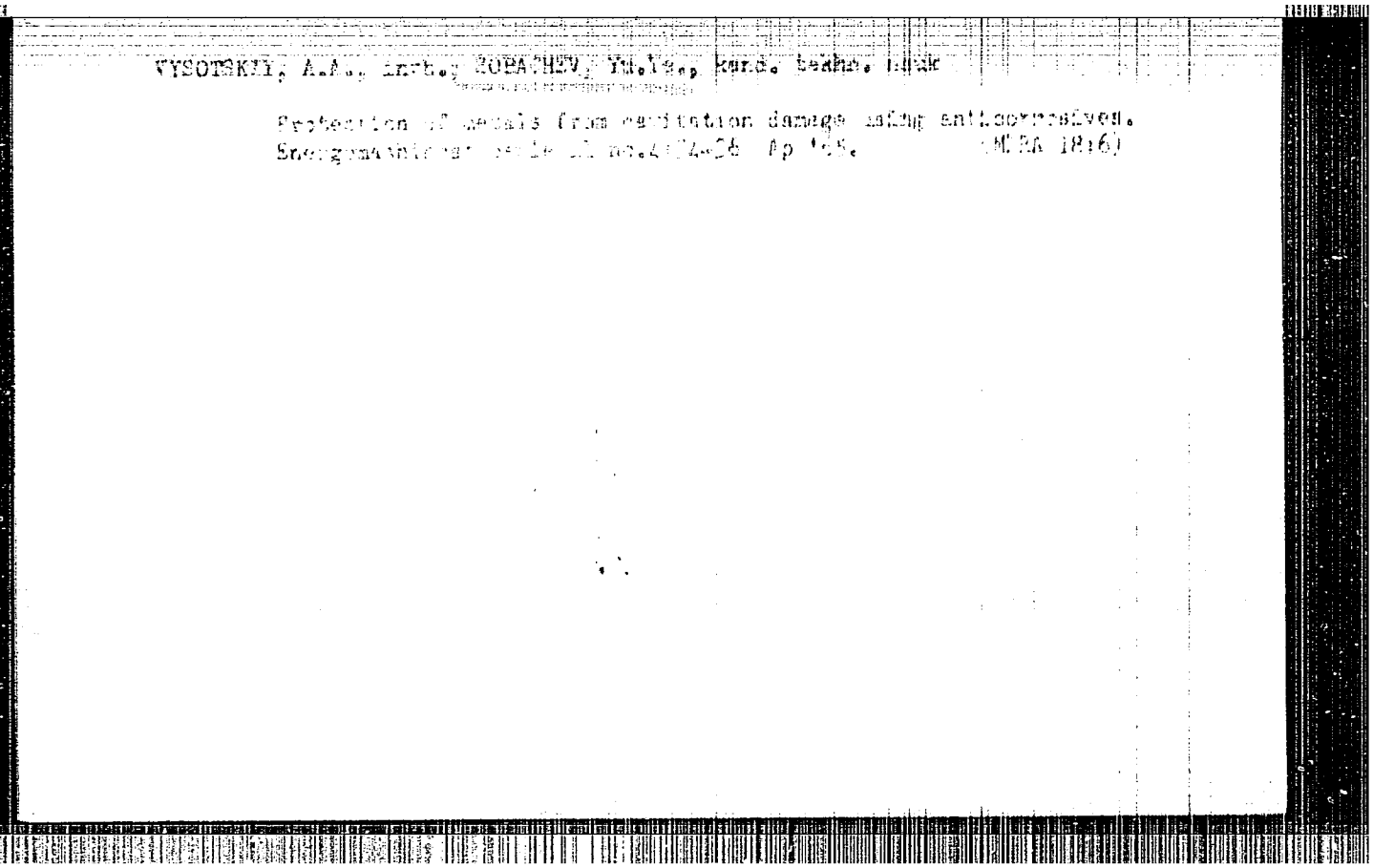
L 40256-66

ACC NR: AP6019900 2

The samples were weighed every hour. The results show that cavitation resistance of chrome-manganese steel is improved when chromium content is increased to 13.5%. When chrome content exceeds 14.0%, cavitation resistance is reduced. Optimum chrome content is 12.0-14.0%. Chrome-manganese steel containing 7.0-9.0% manganese has maximum cavitation resistance, which is reduced by any further addition of manganese. Increasing the carbon content of chrome-manganese steel to 0.38-0.40% also increases cavitation resistance, although ductility and workability are adversely affected. Silicon is necessary for holding ductility at the required level. Silicon content should not exceed 1.0%. The addition of 0.05-0.1% titanium improves the strength properties of the steel by reducing grain size. Resistance to cavitation is also improved. The following composition is optimum for steel used in marine propeller shafts working under cavitation-producing conditions: C--0.20-0.28%, Si--0.5-1.0%, Mn--7.0-9.0%, Cr--12.0-14.0%, Ti--0.02-0.05%. The results also show that chrome-manganese steel with a chromium content of 12% or more is corrosion-resistant in sea water. Sulfur was added to improve machining characteristics. 0.1% sulfur does not reduce the resistance to cavitation or the mechanical properties of chrome-manganese steel. Orig. art. has: 3 figures, 1 table.

SUB CODE: 11/ SUBM DATE: 29May64

Card 2/2 MLP



VYSOTSKII, A.A., inzh.; ZUBACHEV, Yu.Ya., kand. tekhn. nauk

Protection of metals from radiation damage using anticorrosives.
Sverdlovskii rabochii vechernii no.4:24-26 Ap '65. (MIRA 18:6)

VYSOTSKIY, A.A.; ZOBACHEV, Yu.Ye., kand. tekhn. nauk

Cavitation resistance of materials in media with various additives.
Trudy TSNIIMF 57:43-50 '64.

(MIRA 18:2)

VYSOTSKIY, A., mladshiy nauchnyy sotrudnik; ZOMCHEV, Yu., kand.tekhn.nauk; KOSTROV, Ye., kand.tekhn.nauk, starshiy nauchnyy sotrudnik

Selecting anticorrosive additives for the cooling water of marine internal combustion engines. Mor. flot 25 no.3:26-28 Mr '65. (MIRA 18:4)

1. TSentral'nyy nauchno-issledovatel'skiy institut morskogo flota (for Vysotskiy).

VYSOTSKIY, A. A.; VINOGRADOV, V. I.; ZOBACHEV, Yu. Ye.; PUCHKIN, A. V.

Preventing the corrosion of cooling jackets on marine internal combustion engines. Inform.sbor.TSNIIMF no. 87 Tekh.ekspl. mor.flota no. 20:57-82 '62. (MIRA 17:5)

SHCHERBAKOV, P.S., inzh.; ZOBACHEV, Yu.Ye., kand.tekhn.nauk; SUPRUN, L.A., kand.tekhn.nauk

Corrosion failure of shipbuilding materials in a stream of sea water. Sudostroenie 28 no.6:55-59 Je '62. (MIRA 15:6)
(Corrosion and anticorrosives) (Sea water)

GLIKMAN, L.A.; KOSTROV, Ye.N.; SUFRUN, L.A.; YELIN, I.A.; SHCHERBAKOV, P.S.; ZOBACHEV, Yu.Ye.; DOBRER, V.K.; STRUMPE, P.I., kand.tekhn.nauk, otv. red.; ARAKELOV, V.K., nauchnyy red.; BAKA, N.G., red.; KOTLYAKOVA, O.I., tekhn.red.

[Organization and technology of ship repair; corrosion and mechanical strength of metals] Organizatsiia i tekhnologiia sudoremonta; voprosy korrozionno-mekhanicheskoi prochnosti metallov. Leningrad, Izd-vo Morskoi transport 1959. 76 p. (Leningrad. tsentral'nyi nauchno-issledovatel'skii institut morskogo flota. Trudy no.22) (MIRA 12:5)
(Metals--Testing) (Corrosion and anticorrosives)

ZOBACHEV, Yu. Ye.

137-1957-12-25012

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 12, p 296 (USSR)

AUTHORS: Glikman, L. A., Zobachev, Yu. Ye.

TITLE: The Effect of Cathodic Polarization, Accomplished by Means of an External Current and an Mg Protector, on the Cavitational Stability of Carbon Steel in Tests Performed on a Magnetostriction Vibrator. (On the Problem of the Physical Nature of Cavitation Failure.) [Vliyaniye katodnoy polyarizatsii vneshnim tokom i magniyevym protektorom na kavitatsionnuyu stoykost' uglerodistoy stali pri ispytanii na magnitostriktsionnom vibratore. (K voprosu o fizicheskoy prirode kavitatsionnogo razrusheniya)]

PERIODICAL: Tr. Tsentr. n.-i. in-ta morsk. flota, 1956, Nr 5, pp 3-7

ABSTRACT: The testing of annealed carbon steels (0.12 - 0.56 percent C) was carried out in a magnetostriction vibrator, in which the specimen was caused to vibrate with an amplitude of 70 μ at a frequency of 8000 cps, in sea water (Black Sea composition), and also for the sake of comparison in tap water. The loss in weight was taken as the criterion of cavitational stability. During cathodic polarization (P) the current density was held in the range between 0.6 and 4.2 amp/dm². In addition, tests were also carried

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The Effect of Cathodic Polarization, Accomplished by Means of (cont.)

out under conditions of anodic P; graphite served as the material for the anode. It was established that, with increased density of the cathodic current, the rate of cathodic break-down (CB) is considerably lowered, but that at maximum current densities the weight loss in sea water is very significant and that it comprises approx. 70 percent of the weight lost in fresh water during CB. The large extent of CB, approaching the value for corrosion-resistant materials with approximately identical mechanical properties, points to the great importance of the mechanical aspect. Results obtained also reveal the relatively high corrosion losses during CB, which can also be explained by the mechanical aspect. The mechanism of this process consists in the appearance of cyclic plastic deformation (PD) in individual micro-volumes, which is a result of the mechanical action of recurrent, single impacts. The PD results in a considerable electrochemical non-homogeneity, the primary condition for which is the simultaneousness of the PD process and the action of the medium. The electrochemical non-uniformity is also intensified by microscopic regions of a PD which does not occur simultaneously throughout the area subjected to cavitation. It is shown that the employment of Mg protectors restores the fatigue strength of specimens sub-

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1. Steel-Cavitation-Test results 2. Polarization-Applications
3. Magnetostriction-Applications 4. Vibrating mechanisms-Applications

137-1957-12-25012

The Effect of Cathodic Polarization, Accomplished by Means of (cont.)

subjected to simultaneous corrosive action of salt water to 90 percent of its value in air. The fact that Mg protectors have no effect upon CB is an indication that electrochemical non-homogeneity is considerably greater in CB than it is in a fatigue process. At greater current densities the anodic P process resulted in a significant acceleration of the CB owing to the anodic dissolution of specimens being tested.

L. G.

Card 3/3

ZOBACHEV, Yu.Ye.

GLIKMAN, L.A., doktor tekhnicheskikh nauk, professor; ZOBACHEV, Yu.Ye.

Effect of shot peening on cavitation resistance of metals during tests on a magnetostriction vibrator. Metalloved. i obr. met. no.5:38-41 My '57. (MLRA 10:6)

1. TSentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya.
(Shot peening) (Cavitation)

ZOBACHEV, YU.YE.

PRITULA, Vsevolod Aleksandrovich; ZOBACHEV, Yu.Ye., redaktor; KOZLOVA, I.P., redaktor izdatel'stva; LAVRENOVA, N.B., tekhnicheskiy redaktor

[Control of corrosion in tankers] Bor'ba s korroziei tankerov. Moskva, Izd-vo "Morskoi transport," 1957. 149 p. (MLRA 10:8)
(Corrosion and anticorrosives) (Tank vessels)

PEREKALIN, Vsevolod Vasil'yevich; Prinimali uchastiye: SOPOVA, A.V.; LERNER, O.M.; ZONIS, E.S.; ZOBACHEVA, M.M.; KVITKO, S.M.; BASHOV, Yu.V.; KAPLIN, S.V.; POLYANSKAYA, A.S.; PADVA, G.D.; ZONIS, S.A., red.; FOMINA, T.A., tekhn. red.

[Unsaturated nitro compounds] Nepredel'nye nitrosoedineniia. Leningrad, Gos. nauchno-tekhn. izd-vo khim. lit-ry, 1961. 335 p. (MIRA 14:7)

(Nitro compounds)

ZOBACHEVA, M. M., Cand Chem Sci -- "Synthesis of gamma-[illegible] amino acids and alpha-pyrrolidones. /Riga/, 1961. (Riga Polytech Inst) (KL, 8-61, 231)

.5(3)

AUTHOR: Perekalin, V. V., Zobacheva, M. M. SOV/79-29-9-20/76

TITLE: Synthesis of γ-Amino Acids and Pyrrolidones

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 9, pp 2905-2910 (USSR)

ABSTRACT: A survey of the synthesis of γ-amino acids and pyrrolidones described in publications reveals that their application is often restricted by the difficult preparation of the initial products. Known methods fail to produce more complicated γ-amino acids. In the investigation under review, the sodium derivative of dimethyl ester of malonic acid was caused to react with nitro-olefins of the aliphatic, aromatic, heterocyclic series, i.e. with β-isopropyl nitroethylene (Ref 10), p-methoxy-ω-nitrostyrene (Ref 11), p-oxy-m-methoxy-ω-nitrostyrene (Ref 12), β-furyl nitroethylene (Ref 13), β-thienyl nitroethylene (Ref 14); this condensation resulted in compounds (I) which, by reduction over a skeleton nickel catalyst, yielded pyrrolidones (II); the acid hydrolysis of carbomethoxy pyrrolidones led to substituted γ-amino butyric acids (III), and the alkaline hydrolysis to pyrrolidone carboxylic acids (IV). On heating, acids (III) and (IV) transformed into pyrrolidones (V); the hydrolysis of pyrrolidones again yielded γ-amino acids. A synthesis was also made of the acetyl compounds (VI) (Scheme).

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To prevent nitro-olefin from polymerising, nitro-olefin, likewise solved in methanol, was added to the solution of sodium methyl malonate in anhydrous methanol, and not the other way round. Condensation took place on cooling; a considerable resinification occurred above 20°. The nickel catalyst applied was first saturated with hydrogen; from the amount of absorbed hydrogen it was possible to deduct that only the nitro group had been reduced, and not the carboxyl groups. Acids (IV) were separated by diluted hydrochloric acid from the alkali lyes resulting after the hydrolysis of compounds (II). On heating to the melting point they were transformed into the corresponding pyrrolidones. Their hydrolysis with 10% caustic potash solution and subsequent neutralization with diluted hydrochloric acid, yielded the γ-amino acids as the end product. Five γ-amino acids (IIIa), (IIIb), (IIIv), (IIIg), (IIId), and, correspondingly, five pyrrolidones (Va), (Vb), (Vv), (Vg), (Vd) were synthesized. Melting point, yields and data supplied by the elementary analysis of the products obtained are shown by the table. There are ' table and 14 references, 4 of which are Soviet.

Synthesis of γ-Amino Acids and Pyrrolidones SOV/79-29-9-20/76

ASSOCIATION: Leningradskiy pedagogicheskiy institut imeni A. I. Gertsena
(Leningrad Pedagogical Institute imeni A. I. Gertsen)

SUBMITTED: July 11, 1958

Card 3/3

ZOBACHEVA, M.M.; PERFKALIN, V.V.

Reaction of nitro olefins with malonic dimethyl ester. Nauch.dokl. vys.shkoly; khim. i khim.tekh. no.4:740-742 '58. (MIRA 12:2)

1. Predstavlena kafedroy organicheskoy khimii Leningradskogo gosudarstvennogo pedagogicheskogo instituta imeni A.I. Gertsena.
(Olefins) (Malonic acid)

ZOBACOVA, Alena

CZECHOSLOVAKIA / Organic Chemistry. Natural Substances and Their Synthetic Analogues. G-3

Abs Jour : RZhKhim., No 10, 1958, No 32581

Author : Rudolf Lukos, Alena Zobacova
Inst : Not given
Title : New Complete Synthesis of Phytol

Orig Pub : Chem. listy, 1957, 51, No 2, 330-335; Sb. chekhosl. khim. rabot, 1957, 22, No 5, 1649-1654

Abstract : Hexahydrofarnesylacetone, from which phytol had been produced earlier (see Fischer F.G., Lowenberg, K., Liebigs, Ann. Chem., 1929, 475, 183), was synthetized of levulinic acid (I) and isohexyl bromide (II). 80% of ethyl ester, boiling point 59° under 18 mm, was preparedof isocaproic acid and alcohol by boiling 8 hours with $CaCl_2$ and HCl (acid); this ester yieldod 69% of isohexyl alcohol (III), boiling point 149 to 151° when reduced with Na in alcohol. II was obtained by the saturation of III with HBr at 100 to 120° (bath tem-

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CZECHOSLOVAKIA / Organic Chemistry. Natural Substances and Their Synthetic Analogues.

Abs Jour : RZhKhim., No 10, 1958, No 32581

perature), yield 76%, boiling point 142 to 144°. Ester was distilled off from Grignard's reagent of II and Mg (by boiling 30 minutes), the residue was dissolved in C_6H_6 and added drop by drop to the benzene solution of ethyl ester of I at 15 to 20°. After 30 min. of stirring and 12 hours of aging at 20° lactone of 2,6-dimethyl-6-oxyoctanecarboxylic-8 acid was produced, yield 47%, boiling point 108 to 109° under 1 mm; this yielded ethyl ester of 2,6-dymethyl-6-chlorooctane-carboxylic acid having been seasoned with HCl (gas) in alcohol, yield 96%. HCl was split off from the latter by heating (1 hour at 180°) without purifying and ethyl ester of 2,6-dimethyloctene-6-carboxylic-8 acid (IV) was formed, yield 92%, boiling point 90 to 92° under 1 mm. Ethyl ester of 2,6-dimethyloctanecarboxylic-8 acid was prepared by hydrogenating IV on Pd/Al_2O_3 in alcohol under normal pressure and temperature and reduced to 2,6-dimethylnonanol-9 with

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CZECHOSLOVAKIA / Organic Chemistry. Natural Substances and Their Synthetic Analogues.

Abs Jour : RZhKhim., No 10, 1956, No 32581

LiAlH, in ether with further purification (12 hours at 20°), yield 86%, boiling point 119 to 120° under 13 mm. 2,6-dimethyl-9-bromononane was obtained from 2,6-dimethylnonanol-9 by the action of HBr (gas) at 120°, yield 61%, boiling point 103 to 104° under 11 mm. Grignard's reagent, received from it, together with ethyl ester of β-acetylbutyric acid produced lactone of 2,6,10-trimethyl-10-oxytridecanocarboxylic-13 acid under the above mentioned conditions, yield 75%, boiling point 143 to 148° under 0.08 to 0.09 mm. After having aged it 12 hours with HCl (gas) in alcohol, ethyl ester of 2,6,10-trimethyl-10-chlorotridecanocarboxilic-13 acid was obtained, yield 96%, which produced ethyl ester of 2,6,10-trimethyldecono-10-carboxylic-13 acid having been heated 1.5 hour to 200 to 210°, yield 75%, boiling point 144 to

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CZECHOSLOVAKIA / Organic Chemistry. Natural Substances and Their Synthetic Analogues.

Abs Jour : RZhKhim., No 10, 1958, No 32501

145° under 1.5 mm. Ethyl ester of 2,6,10-trimethyltridecane-carboxylic-13 acid was prepared by hydrogenation with Pd/Al_2O_3 in alcohol, without having been purified, this ester was hydrolyzed by boiling with KOH in aqueous alcohol and produced the free acid, boiling point 154 to 155° under 1.5 mm. The acid chloride of this acid, prepared by the action of $SOCl_2$, reacted 12 hours at 20° and 1.5 hour at 100° in benzene solution with ethyl ester of ethoxymagnesiummalonic acid (of malonic ester, ethyl alcohol and magnesium in C_6H_6, 2 hours of boiling) and the product was heated 4.5 hours with propionic acid and H_2SO_4; it produced 2,6,10-trimethylpentadecanone-14, yield 75%, boiling point 132 to 134° under 1 mm, $n^{20}D = 1.4453$, $n^{25}D = 1.4434$; semicarbazone, melting point 70° (from CH_3OH).

Card 4/4

ZOBACOVA, A.; LUKES, R.

A new toral synthesis of phytol. p. 330. (Chemicke Listy, Vol. 51, no. 2, Feb. 1957.)

SO: Monthly List of East European Accession (EEAL) Vol. 6, no. 7, July 1957. Uncl.

LUKES, R. [deceased]; MOLL, M.; ZOBACOVA, A.; JARY, J.

On lactones. Part 6 : Hydroxylation of 2-ethyl-5-oxo-2,5-dihydrofuran. Coll Cz Chem 27 no.2:500-503 F '62.

1. Laboratorium fur heterocyclische Verbindungen, Tschechoslowakische Akademie der Wissenschaften, Prag. 2. Jetzige Adresse : Zaklad technologii chemicznych srodkow leczniczych, Warszawa (for Moll).

ZOBÁČOVÁ, A.; JARÝ, J.

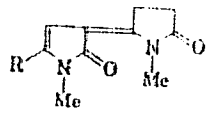
Amino sugars. Pt. 3. Coll Cz Chem 29 no.9:2042-2048 S '64.

1. Laboratory for Research of Monosaccharides, Faculty of Chemical Technology, Prague.

ZOBACOVA, A.

Distr: 4E3b/4E3d

Side products of the pyrrolone synthesis. Rudolf Lukeš and Alena Zobáčová (Akad. Wiss., Prague). *Chimia* (Switz.) 15, [illegible] (in German).—In the reaction of an aromatic Grignard reagent with *N*-methylsuccinimide to give hydroxypyrrolidone, several side products whose structures have been detd. before, were isolated along with a new compd. I (R = Ph or C_6H_5). Structure proof was obtained by oxidn., hydrolysis, and synthesis.



(I)

R. H. Brandenberger

ZOBACOVA, A.

The action of Grignard reagents on the amide group. ... Preparation of some 4-oxo acids. ...

to a Grignard reagent prepd. from 80 g. 1-bromonaphthalene, 14 g. Mg, and 850 ml. Et_2O, heating the mixt. 80 min. on a steam bath, keeping one day at 20°, decompg. with ... wmg. the ... the aq. layer with C_6H_6, ... naphthalene VII ... in 500 ml. C_6H_6 ... were simultaneously added with stirring and cooling to ... C_6H_6, and the mixt. kept 5 days at room temp. Decompg. with dil. H_2SO_4, evapg. the Et_2O–C_6H_6 layer, steam-distg. the residual brown oil to remove naphthalene and VII, boiling the steam-distn. residue 15 hrs. with 250 ... H_2SO_4, wmg. the ... extg. the aq. layer with C_6H_6 ... the ... C_6H_6 ext., and ... crystals which were recrystd. from 50% ... yield 36 g. ... Similarly ... 1-naphthoyl- ...

ZOBACOVA, A

PHASE I BOOK EXPLOITATION CZECH/4539

Plešek, Jaromír, Engineer, Doctor, and Alena Zobáčová, Engineer

Preparativní reakce v organické chemii, Díl. 5: Aldolisace a příbuzné reakce (Reactions of Formation in Organic Chemistry, Vol. 5: Aldolization and Related Reactions) Prague, Náklad. Československé Akademie věd, 1960. 976 p. 2,000 copies printed.

Sponsoring Agency: Československá akademie věd. Sekce chemická.

Ed.: Miloš Hudlický, Engineer, Doctor; Scientific Ed.: Vladimír Bažant, Engineer, Doctor; Ed. of Publishing House: Jarmila Klejnová.

PURPOSE: This book is intended for organic chemists and industrial chemists interested in reactions for the preparation of aldehyde resins. It may also be used by chemistry teachers and chemistry students at the university level.

COVERAGE: The book discusses an important branch of aldol syntheses, i.e., reactions catalyzed by all kinds of bases. Those reactions

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in which the required carbon ion is formed in ways other than by dissociation of the compound by alpha hydrogen transposition have not been included. Aldol syntheses and reactions in which a compound of an extremely weak mineral acid produces, by the effect of a very strong base, an isolable organometallic compound, an intermediate product of the reaction, are treated as borderline cases. Of the acid-catalyzed aldol syntheses, attention is given only to those which have comparable base-catalyzed reactions. These are, chiefly, acid-catalyzed aldol condensations of aldehydes and ketones, the Mannich and Meerwein acylation reactions of ketones by acid anhydrides and boron fluoride. Organometallic syntheses and reactions of the Friedel-Crafts type are treated in other volumes of the series. The character of the compound having the transposable (α) hydrogen atom, which is the generator of the required carbon ion, is the key to the arrangement of the material in the individual sections. Materials are arranged so that compounds whose active C-H bond is activated from only one side precede compounds activated from both sides, i.e., compounds with an active methylene group. No personalities are mentioned. There are 2664 references representative of the most important periodical literature in the field published from 1950 to 1957.

DAMRIN, V.I., inzh.; ZOBAK, B.I.

Position transducer by hydraulic jet. Stal' 20 no.2:189-191 F '60. (MIRA 13:5)

1. Yuvmetallurgavtomatika.
(Rolling mills) (Hydraulic control)

ZOBAK, I.D.

Collapsotherapy of disseminated forms of tuberculosis. Prob. tuberk., Moskva No.1:27-33 Jan-Feb 51. (CLML 20:6)

1. Honored Physician RSFSR, Docent.

Zubakov, V.A.

20-6-30/48

AUTHOR: Zubakov, V.A.

TITLE: Deposits of West Siberia and on the Distribution Boundaries of the Sanchugov Transgression along the Yenisey River (O ledni-kovo-morskikh otlozheniyakh Zapadnoy Sibiri i granitsakh rasprostraneniya Sanchugovskoy transgressii po Yeniseyu)

PERIODICAL: Doklady AN SSSR, 1957, Vol. 115, Nr 6, pp. 1161-1164 (USSR)

ABSTRACT: Since 1946-49 a horizon of moraines became known here which was later called "Yeniseian" or "Tazovian". The glaciation of the same name had, according to various authors, a superficial character. It followed immediately after the maximum glaciation. The Yenisei-(Taz-)-glaciation left the so-called Taz-Pur-Nadym-terminal moraine belt. This glaciation preceded the Sanchugov transgression and the formation of the sands of the Massov horizon. On the Yenisey river, between the mouth of the Podkamennaya Tunguska and the village Karaul, the author discovered a gradual transition of the moraine deposits to typically marine sediments of the Sanchugov suite. The author considers these deposits as primarily intact shells of Portlandia arctica (300 km distant from the sea) which in their interior contain the rocks.

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20-6-30/48

Deposits of West Siberia and on the Distribution Boundaries of the Sanchugov Transgression along the Yenisey River

The fossils are deposited in a complex with only Siberian erratic blocks(and with no Taymyr-Siberian ones). A marine fauna was also discovered in the Turukhan basin (66 degrees north latitude). The mass of clays containing erratic blocks on the Yenisei may, according to the pollen-spore-analysis, be subdivided into 2 horizons: the lower - the Oplyvin-lake-estuarial layers. The pollen-spore-complex is interglacial here. The upper horizon has a moraine character with an increase in the marble-content and with a tundra-like pollen-spore-complex. This mass belongs to the Sanchugov suite. Under it lie sands of the Khakhalev- (Messov-)-horizon. In the light of these data one cannot agree to the classification of the Yenisei horizon with the continental moraine formations. It also hardly belongs to the interglacial era. It has, on the contrary, to be classified with the glacial-marine correlative forms of glaciation and with the sediments of the "second covers"-glaciation (i.e. the Yeniseian). They had no true cover character, but the ice masses slid into the sea and on the water formed a husk cover up to 50 m thick. Under it the glacial-marine deposits formed which are visually not to be distinguished from a typical moraine. In the distribu-

Card 2/3 tion region of the icebergs the moraine material sank only spo-

Deposits of West Siberia and on the Distribution Boundaries of the Sanchugov Transgression along the Yenisey River

radically to the ground, so that the sediments do not have a moraine character here, although they are contemporaneous with the glaciation. The sediments of the Yenisey-glaciation must be separated as an independent stratigraphic horizon. The boundaries of the "passive", i.e. of the Yenisey-glaciation reflected in marine and estuarial deposits, must to a great extent agree with the boundary of the Sanchugov-transgression and have an "ingressive" character. They extend to the south in the Yenisey valley and other river valleys to 66 degrees north latitude. The so-called edge-terminal moraine formations of the Taz-Pur-Nadym belt are, according to all probability, not connected with the Yenisey-glaciation, but come from the maximum glaciation. There are 2 figures and 7 Slavic references.

ASSOCIATION: All-Union Scientific Geological Research Institute (Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut)
PRESENTED: D.V. Nalivkin, Academician, March 29, 1957
SUBMITTED: March 27, 1957
AVAILABLE: Library of Congress

Card 3/3

LYUBIMOV, A.P.; ZOBENS, V.Ya.; RAKHOVSKIY, V.I.

Mass spectrometric determination of the thermodynamic properties of binary metallic systems [with summary in English]. Zhur. fiz. khim. 32 no.8:1804-1808 Ag '58. (MIRA 11:10)

1.Institut stali imeni I.V. Stalina, Moskva.
(Systems (Chemistry))

SOV/76-32-8-12/37

AUTHORS: Lyubimov, A. P., Zobens, V. Ya., Rakhovskiy, V. I.

TITLE: A Mass-Spectrometric Determination of the Thermodynamic Properties of Binary Metallic Systems (Opredeleniye termodinamicheskikh kharakteristik metallicheskikh dvoynykh sistem pri pomoshchi mass-spektrometra)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol. 32, Nr 8, pp. 1804-1808 (USSR)

ABSTRACT: A method for the determination of the partial pressures of vapors based on an evaporation and a subsequent analysis of the gaseous phase is employed. An apparatus of the type MS-1 served for the mass-spectrometric measurements. It had to be improved in some respects, as e.g. by a focusing of the ion beam, the avoiding of a contact between the material to be investigated and the heating element, and others . A diagram of the apparatus as well as a description and the technique employed are given. The systems Fe - Ni and Fe - Co were investigated at 1463°, 1583° and 1705°K, with the isotopes Fe^{56}_{26}, Co^{59}_{27} and Ni^{58}_{28} being used for the measurements.

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A Mass-Spectrometric Determination of the Thermodynamic Properties of Binary Metallic Systems

SOV/76-32-8-12/37

The determination of the partial vapor pressures was carried out by means of the Gibbs-Duhem (Gibbs-Dyugem) equation; the values of the thermodynamic activities, of the activity coefficients as well as of the partial molar free energies are given in a table. It was found that the two systems agree well with the Raoult's (Rault) theorem and thus are close to the ideal case. At a concentration of 80 % nickel there is, however, a deviation from the ideal case, which fact is explained by the presence of "residues" of a superstructure Ni_3Fe.

There are 2 figures, 6 tables, and 4 references, 2 of which are Soviet.

ASSOCIATION: Institut stali im. I.V. Stalina Moskva (Institute of Steel imeni I.V. Stalin, Moscow)

SUBMITTED: March 12, 1957

Card 2/2

BARSUKOV, A.A., inzh., laureat Leninskoy premii; BORISOV, Yu.S., inzh.; VAKS, D.I., inzh.; VLADZIYEVSKIY, A.P., doktor tekhn. nauk; prof., laureat Stalinskoy premii; GINZBURG, Z.M., inzh.; GLEYZER, F.Ye., inzh.; ZOBIN, V.S., inzh.; KAZAK, M.I., dots.; KAMINSKAYA, V.V., kand. tekhn. nauk; KEDRINSKIY, V.N., inzh., laureat Leninskoy premii; KUCHER, A.M., kand. tekhn. nauk; KUCHER, I.M., kand. tekhn. nauk; LEVINA, Z.M., inzh.; LUK'YANOV, T.P., inzh.; MOROZOVA, Ye.M., inzh.; NOSKIN, P.A., kand. tekhn. nauk, dots.; NIKHRO, N.Ya., kand. tekhn. nauk; OSTROUMOV, G.A., inzh.; PLOTKIN, I.B., inzh.; SPIVAK, E.D., kand. tekhn. nauk; SUM-SHIK, M.M., inzh.; SHASHKIN, P.I., inzh.; SHIFRIN, S.M., inzh.; YAKOBSON, M.O., doktor tekhn. nauk, prof.; GLIKER, B.M., inzh., red.; SOKOLOVA, T.F., tekhn. red.

[Handbook for mechanics of machinery plants in tow volumes] Spravochnik mekhanika mashinostroitel'nogo zavoda v dvukh tomakh. Vol.1. [Organization and design preparation for repair work] Organizatsiia i konstruktorskaia podgotovka remontnykh rabot. Otv. red. toma E.A. Noskin. 1958. 767 p. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry. (MIRA 11:8)

(Machinery--Maintenance and repair)

KUCHERUK, Viktorii Vladimirovich, kand. tekhn. nauk; KHAZANOV, Isaak Salamonovich, inzh.; ZOBIN, V.S., inzh., retsenzent; IHRMOLEV, M.F., kand. tekhn.nauk, red.; BAKYKOVA, G.I., red. izd-va; CHERNOVA, Z.I., tekhn. red.

[Operating and repairing ventilation systems in machinery plants] Ekspluatatsiia i remont ventiliatsionnykh ustanovok mashinostroitel'nykh zavodov. Izd.2., perer. i dop. Moskva, Gos.uchebno-tekhn.izd-vo mashinostroit.lit-ry, 1961. 317 p. (MIRA 15:2)

(Factories—Heating and ventilation)

KRABIN, A.I., prof. [deceased]; ZOBIN, V.S., inzh., retsenzent; YAMINSKIY, V.V., kand. tekhn. nauk, red.

[Compressed air; production, use, means of economy] Szhatyi vozdukh; vyrabotka, potreblenie, puti ekonomii. Moskva, Izd-vo "Mashinostroenie," 1964. 342 p.
(MIRA 17:5)

KARABIN, A.I., prof. [deceased]; ZOBIN, V.S., inzh., retsenzent; YAMINSKIY, V.V., kand. tekhn. nauk, red.

[Compressed air; its production, use, measures for economizing] Szhatyi vozdukh; vyrabotka, potreblenie, puti ekonomii. Moskva, Izd-vo "Mashinostroenie," 1964. 342 p. (MIRA 17:7)

ZOBIN, V. S., ENG.

Hot Water Heating

Diagonal pump for a central heating system. (Proposition of P. A. Dakin, G. T. Tatarchuk, L. P. Ananikyan). Prom. energ. 9, no. 9, 1952.

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Pumping Machinery

Diagonal pump for a central heating system. (Proposition of P.A. Derbin, G. T. Tatarchuk, L. P. Ananikyan). Prom. energ., 9, No. 9, 1952.

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Constant-type gas operated economizers for efficient heating of water. Prom. energ. 20 no.10:2-6 O '65. (MIRA 18:10)

ZOBIN, V.S., inzh.; RYABTSEV, N.I., inzh.; SKOL'NIK, G.N., inzh.

Advantages of the organization of repair and maintenance enterprises in power engineering systems on a territorial basis. Prom.energ. 20 no.12:5-8 D '65.

(MIRA 18:12)

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Mbr., Moscow Municipal Sci. Res. Tuberculosis Inst., -c1948-,
Mbr., State Consultation Office, -c1949-. "The Role of the Neurotrophic Component in the Treatment of Tuberculosis of the Larynx and Tongue," Vest. Oto-Rino-Laringol., No. 2, 1948; "A Case Where A Chicken Bone Remained for Five Years in the Vocal Chords," ibid., No. 1, 1949.

ZOBIN YA. S.

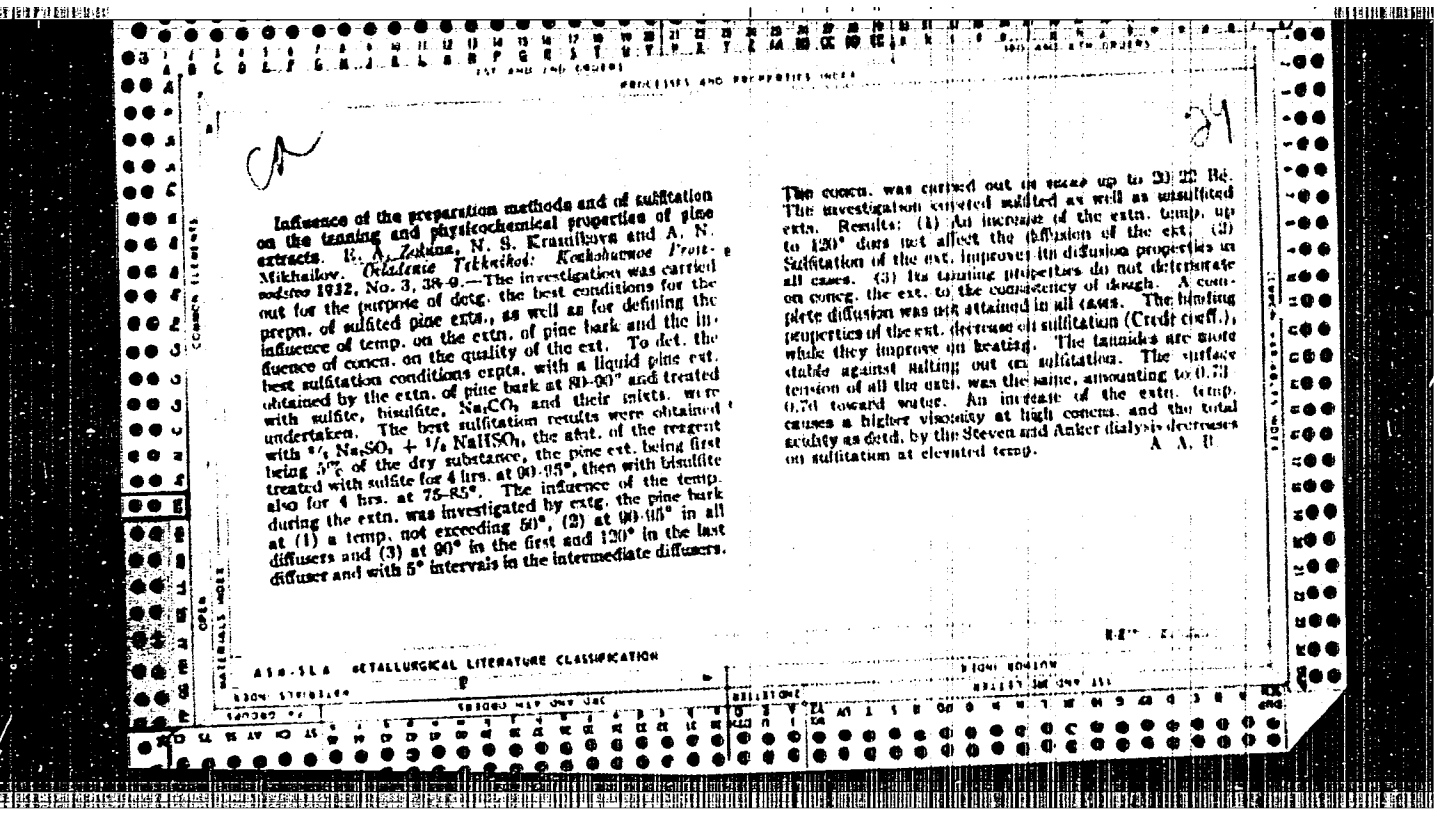
Promyvanie bronkhov kak metod rannego vyiavleniia legochnogo tuberkuleza. /Bronchial lavage as a method of early diagnosis of pulmonary tuberculosis/ Probl. tuberk., Moskva No. 5 Sept-Oct 50 p. 70.

1. Of Moscow Municipal Tuberculosis Institute (Director — Prof. V. L. Rynis).
CLML Vol. 20, No. 2 Feb 1951

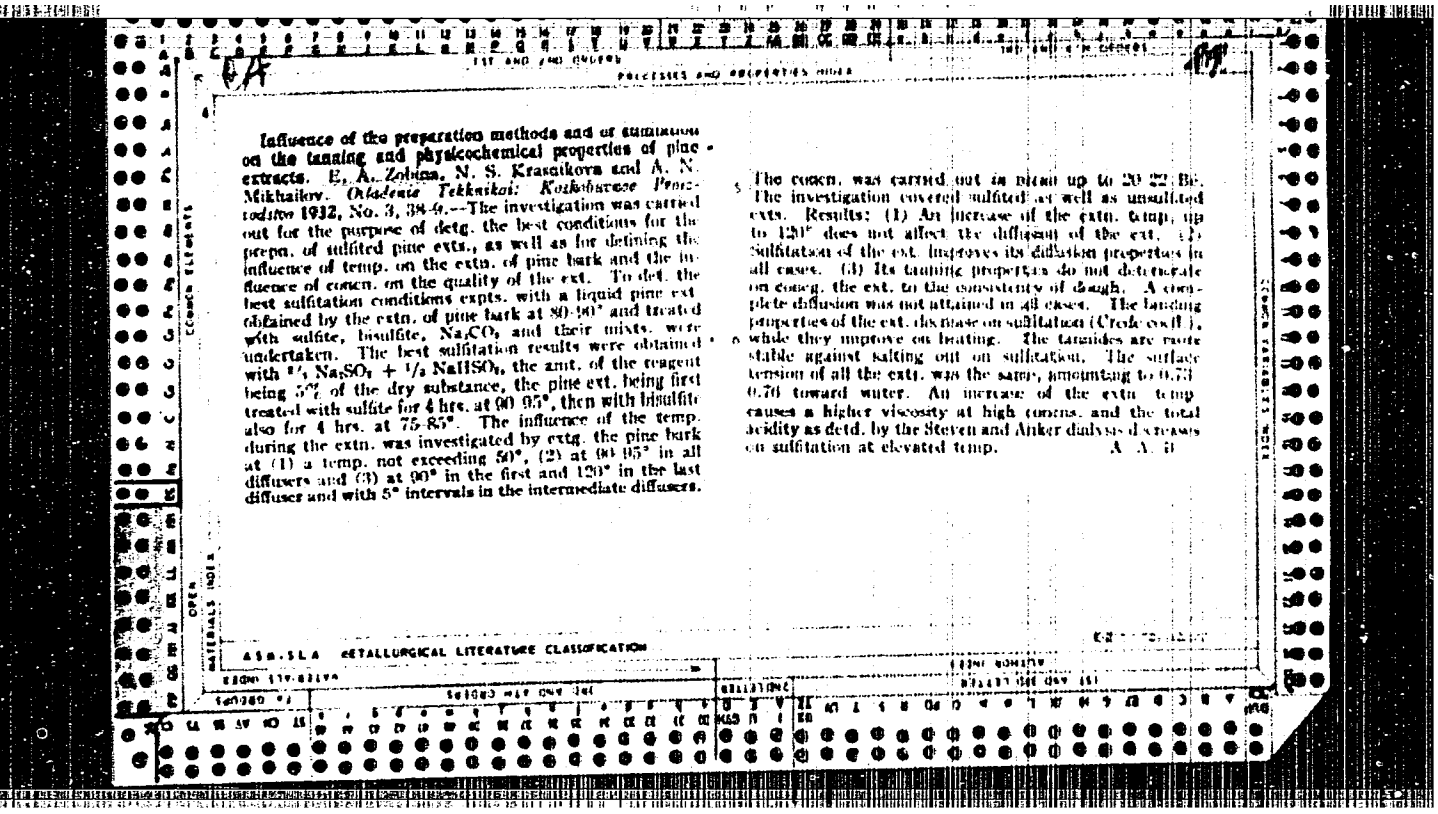
A new method for the determination of diffusion of tannins into the skins. E. A. Zubina and A. N. Mikhailov. *Odelenie Tekhnikoi: Kozhobuvnoe Proizvodstvo* 1932, No. 3, 38.—An attempt was made to simplify the testing procedure for tanning solns. The hide powder was tanned in a battery of 6 vats (3 days in each vat), with a 4°Bé. sp. gr. in the last vat. Control expts. were carried out with willow and pine exts. by the old method. The new procedure yielded satisfactory results except for the compression modulus, which disagreed with that obtained in the usual tanning.

A. A. Boehtlingk

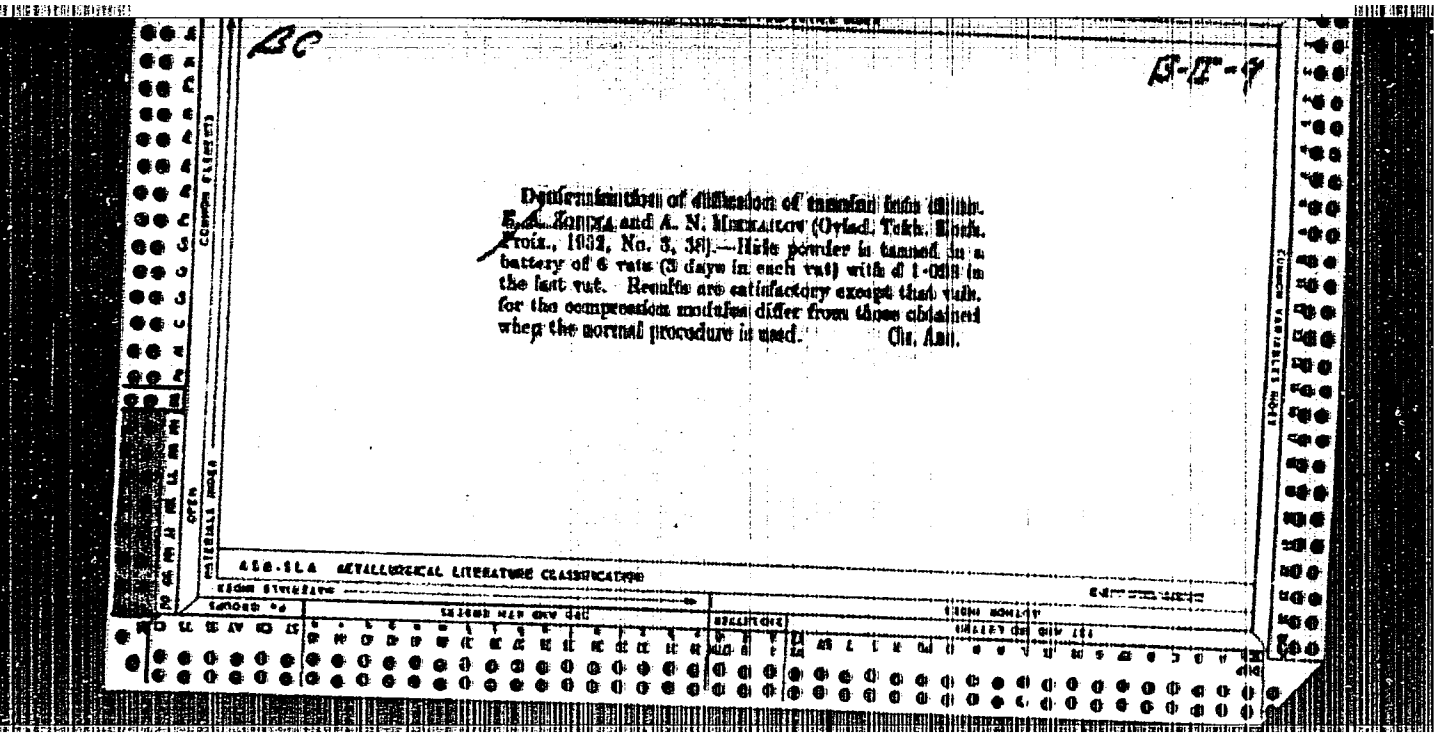
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Influence of the preparation methods and of sulfitation on the tanning and physicochemical properties of pine extracts. R. A. Zakina, N. S. Krasnikova and A. N. Mikhailov. *Organicnie Tekhnikod: Koksakarnoe Proizvodstvo* 1932, No. 3, 38-9.—The investigation was carried out for the purpose of detg. the best conditions for the prepn. of sulfited pine exts., as well as for defining the influence of temp. on the extn. of pine bark and the influence of concn. on the quality of the ext. To det. the best sulfitation conditions expts. with a liquid pine ext. obtained by the extn. of pine bark at 80-90° and treated with sulfite, bisulfite, Na_2CO_3 and their mixts. were undertaken. The best sulfitation results were obtained with ⅔ Na_2SO_3 + ⅓ $NaHSO_3$, the amt. of the reagent being 5% of the dry substance, the pine ext. being first treated with sulfite for 4 hrs. at 90-95°, then with bisulfite also for 4 hrs. at 75-85°. The influence of the temp. during the extn. was investigated by extg. the pine bark at (1) a temp. not exceeding 50°, (2) at 90-95° in all diffusers and (3) at 90° in the first and 120° in the last diffuser and with 5° intervals in the intermediate diffusers. The concn. was carried out in vacuo up to 20-22° Bé. The investigation covered sulfited as well as unsulfited exts. Results: (1) An increase of the extn. temp. up to 120° does not affect the diffusion of the ext. (2) Sulfitation of the ext. improves its diffusion properties in all cases. (3) Its tanning properties do not deteriorate on concg. the ext. to the consistency of dough. A complete diffusion was not attained in all cases. The binding properties of the ext. decrease on sulfitation (Credit coeff.), while they improve on heating. The tannides are more stable against salting out on sulfitation. The surface tension of all the unsulfited exts. was the same, amounting to 0.73-0.76 toward water. An increase of the extn. temp. causes a higher viscosity at high concns. and the total acidity as detd. by the Steven and Anker dialysis decreases on sulfitation at elevated temp. A. A. B.



Influence of the preparation methods and of sulfitation on the tanning and physicochemical properties of pine extracts. E. A. Zobina, N. S. Krasnikova and A. N. Miklhailov. *Otdelenie Tekhnikoi Kozhsyrose Prom-sodstvo* 1932, No. 3, 38-9.—The investigation was carried out for the purpose of detg. the best conditions for the prepn. of sulfited pine exts., as well as for defining the influence of temp. on the extn. of pine bark and the influence of concn. on the quality of the ext. To det. the best sulfitation conditions expts. with a liquid pine ext obtained by the extn. of pine bark at 80-90° and treated with sulfite, bisulfite, Na_2CO_3 and their mixts. were undertaken. The best sulfitation results were obtained with ½ Na_2SO_3 + ½ $NaHSO_3$, the amt. of the reagent being 5% of the dry substance, the pine ext. being first treated with sulfite for 4 hrs. at 90-95°, then with bisulfite also for 4 hrs. at 75-85°. The influence of the temp. during the extn. was investigated by extg. the pine bark at (1) a temp. not exceeding 50°, (2) at 90-95° in all diffusers and (3) at 90° in the first and 120° in the last diffuser and with 5° intervals in the intermediate diffusers. The concn. was carried out in vacuo up to 20-22° Bé. The investigation covered sulfited as well as unsulfited exts. Results: (1) An increase of the extn. temp. up to 120° does not affect the diffusion of the ext. (2) Sulfitation of the ext. improves its diffusion properties in all cases. (3) Its tanning properties do not deteriorate on concg. the ext. to the consistency of dough. A complete diffusion was not attained in all cases. The binding properties of the ext. decrease on sulfitation (Crede coeff.), while they improve on heating. The tannides are more stable against salting out on sulfitation. The surface tension of all the exts. was the same, amounting to 0.73-0.76 toward water. An increase of the extn. temp. causes a higher viscosity at high concns. and the total acidity as detd. by the Steven and Anker dialysis decreases on sulfitation at elevated temp. A. A. B.



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B-II-4

Determination of diffusion of tannins into [illegible]. [illegible] Zonova and A. N. Ilinskaya (Oyiad. Tekh. Kinth. Proiz., 1932, No. 3, 38).—Hide powder is tanned in a battery of 6 vats (3 days in each vat) with d 1·020 in the last vat. Results are satisfactory except that vals. for the compression modulus differ from those obtained when the normal procedure is used. Chi. Abil.

Influence of methods of preparation and of sulphitation on the tanning and physico-chemical properties of pine extracts. E. A. Zotova, N. S. Kharitonova, and A. N. Mikhailov (Ovint. Tekh. Khoz. Prom., 1952, No. 8, 54–60).—Optimum sulphitation is attained with Na_2SO_3 for 4 hr. at 90–95°, followed by $NaHSO_3$ for 4 hr. at 75–80°. A rise in extraction temp. to > 130° does not affect the diffusion of the extract; sulphitation improves diffusion. The tanning properties are not affected by sulphitation, to the consistency of dough. Ch. Abs.

AIA-SLA METALLURGICAL LITERATURE CLASSIFICATION

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The determination of the optimum extraction temperature for badan leaves when the extraction duration is 4 to 8 hours. [illegible] Koldun. *Odaleniia Tekhnich. Kozhevennoe Proizvodstvo* 1932, No. 6, 45-6; *Chem. Zentr.* 1933, I, 3207.—Pulverized badan leaves were allowed to stand in 3 l. of water at 17°, 60°, 75°, and 94° for 4 hrs. Some were then allowed to stand another 4 hrs. in 1 l. of fresh water. The exts. of tanning matter obtained after 4 and 8 hrs. were investigated analytically. Tables report the results, which indicate that an 8-hr. extn. period at 75-85° is to be regarded as optimum for badan leaves.

M. O. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

VOLKOV, A.A.; VASKIN, I.S.; ZOBINA, M.M.; MURATKHODZHAYEV, N.K.

Use of colloidal radioactive isotopes for radiotherapy of craniopharyngioma. Med. rad. 8 no.7:23-29 Jl '63.
(MIRA 17:1)

1. Iz Leningradskogo nauchno-issledovatel'skogo neyrokhirurgicheskogo instituta imeni A.L. Polenova (dir. - prof. V.M. Ugryumov).

AKHUNDOV, A.A., kand. med. nauk; BAIROV, G.A., prof.; BOYARINOVA, M.V., kand. med. nauk; BUTIKOVA, N.I., doktor med. nauk; ZOBINA, M.M., kand. med. nauk; IVASHKO, L.M.; KAZANTSEVA, N.D., kand. med. nauk; ZLOTNIKOV, D.M., professor; KUZ'MIN, B.P., kand. med. nauk; OBODAN, N.M., kand. biol. nauk; KHILKOVA, T.A., kand. med. nauk; EPSHTEYN, Grigoriy Yakovlevich, prof.

[Traumatology and restorative surgery in children; selected chapters] Travmatologiia i vosstanovitel'naia khirurgiia detskogo vozrasta; izbrannye glavy. Leningrad, Meditsina, 1964. 334 p. (MIRA 17:6)

1. Chlen-korrespondent AMN SSSR (for Bairov).

ZOBINA, M.M. (Leningrad)

Lumbar sympathectomy as a method for treating obliterating endarteritis. Vop.neirokhir. 24 no.5:39-43 S-O '60.

(MIRA 13:11)

1. Iz Leningradskogo nauchno-issledovatel'skogo neyrokhirurgicheskogo instituta imeni prof. A.L. Polenova.
(ARTERIES—DISEASES) (NERVOUS SYSTEM, SYMPATHETIC—SURGERY)

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Lumbar sympathectomy in atherosclerosis obliterans. Vest. khir. no.8:45-48 '61. (MIRA 15:3)

1. Iz Leningradskogo nauchno-issledovatel'skogo neyrokhirurgicheskogo instituta im. A.L. Polenova (dir. - prof. V.N. Shamov).
(ARTERIOSCLEROSIS) (NERVOUS SYSTEM, SYMPATHETIC--SURGERY)

FEDOROV, Yevgeniy Aleksandrovich; ZORKOV, B.S., inzh. red.; KOROZOVA, P.B., izdat.red.; ZUDAKIN, I.M., tekhn.red.

[Motion of a plate of infinite span in the vicinity of free surface of ideal weightless fluids] Dvizhenie plastinki beskonechnogo razmakha vblizi svobodnoi poverkhnosti idcal'noi nevesomoi zhidkosti. Moskva, Gos. izd-vo oborn. promyshl., 1958. 41 p. (Moscow. TSentral'nyi aero-gidrodinamicheskii inst. Trudy, no. 711) (MIRA 11:7)
(Airfoils)

YEVDOKIMOV, N., tokar'-karusel'shchik; ZOBKOV, N.

Production norms bureau staffed with volunteers in a workshop. Sots.trud 8 no.4:21-23 Ap '63. (MIRA 16:4)

1. Predsedatel' Obshchestvennogo normirovochnogo byuro mekhanicheskogo tsekha Moskovskogo zavoda "Krasnaya Presnya" (for Yevdokimov).

(Moscow--Machinery industry--Production standards)

ZOBKOV, V.V.; GORSHKOVA, A.I.

Ultrasonic study of the soft tissues and the liver. Trudy VNIIMIO no.3:74-78 '63 (MIRA 18:2)

GAYSINSKIY, B.Ye.; ZOBKOV, V.V.; GORSHKOVA, A.I.

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(MIRA 18:11)

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[Ways of using the production funds of an enterprise better] Puti luchshego ispol'zovaniia proizvodstvennykh fondov predpriiatii. Novgorod, Knizhnaia red. gazety "Novgorodskaia pravda," 1960. 34 p. (MIRA 14:12)
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